

FIG. 1A

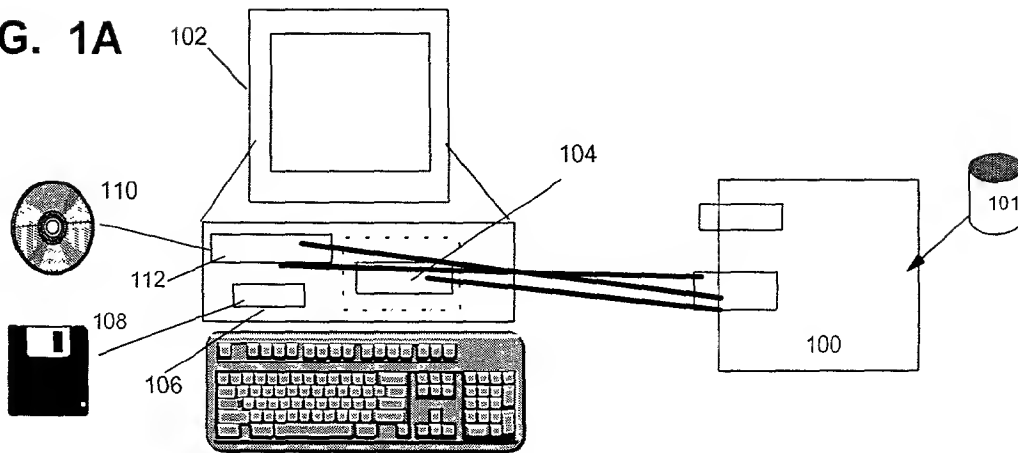


FIG. 1B

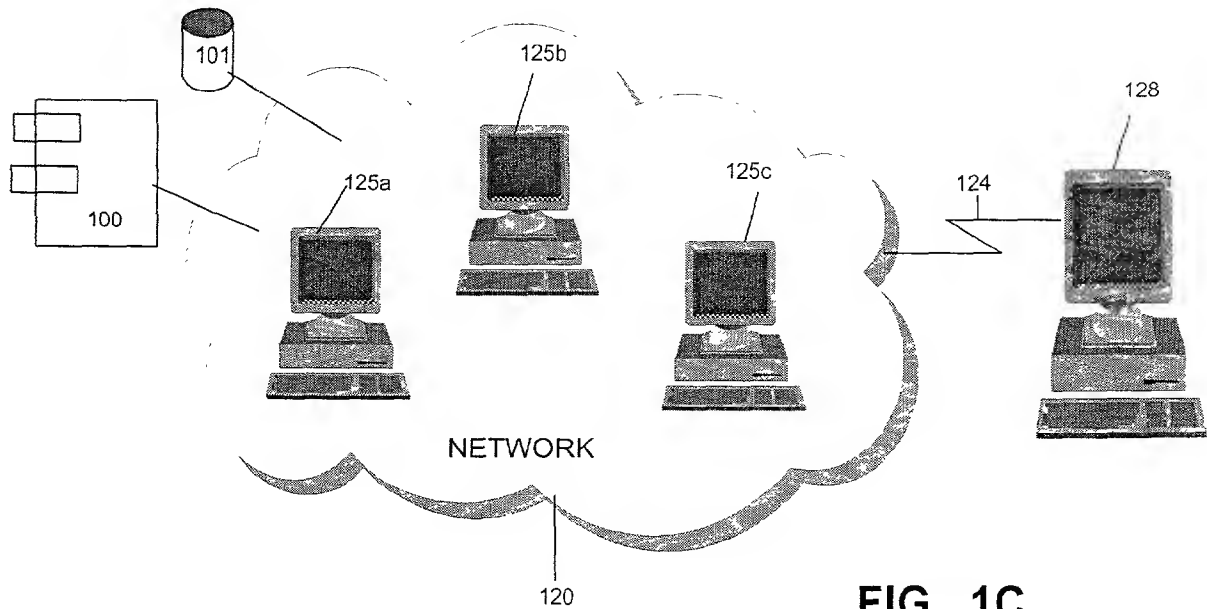
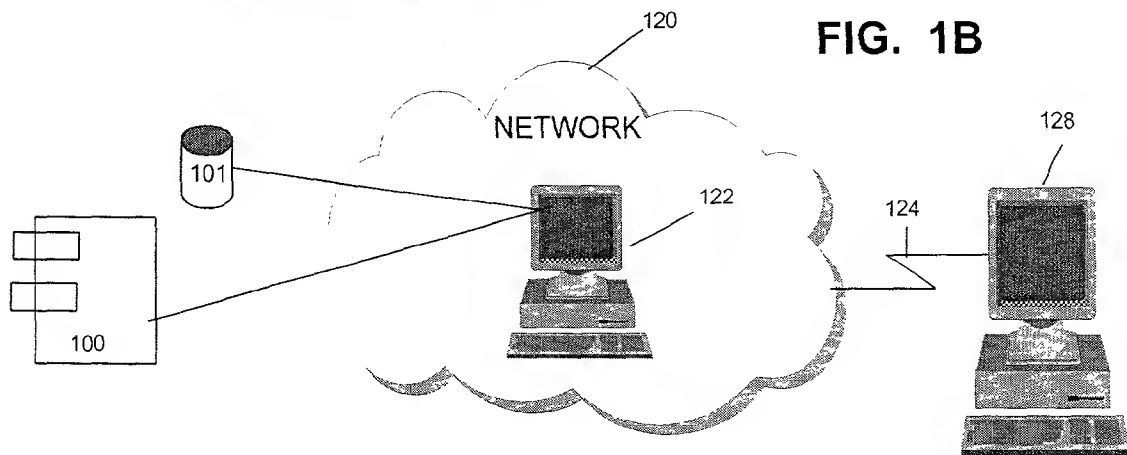


FIG. 1C

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	

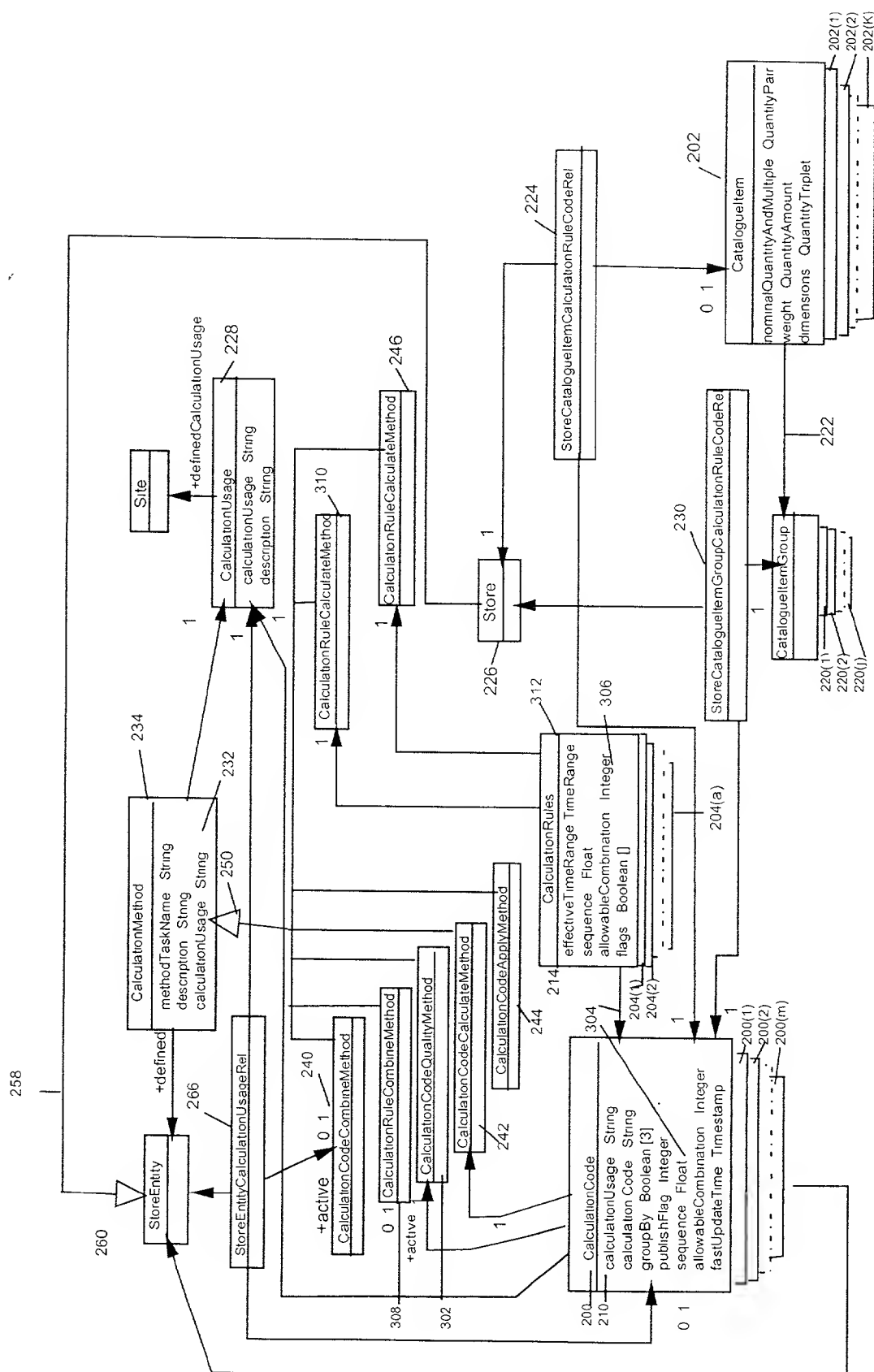


Figure 4

Main Module 400

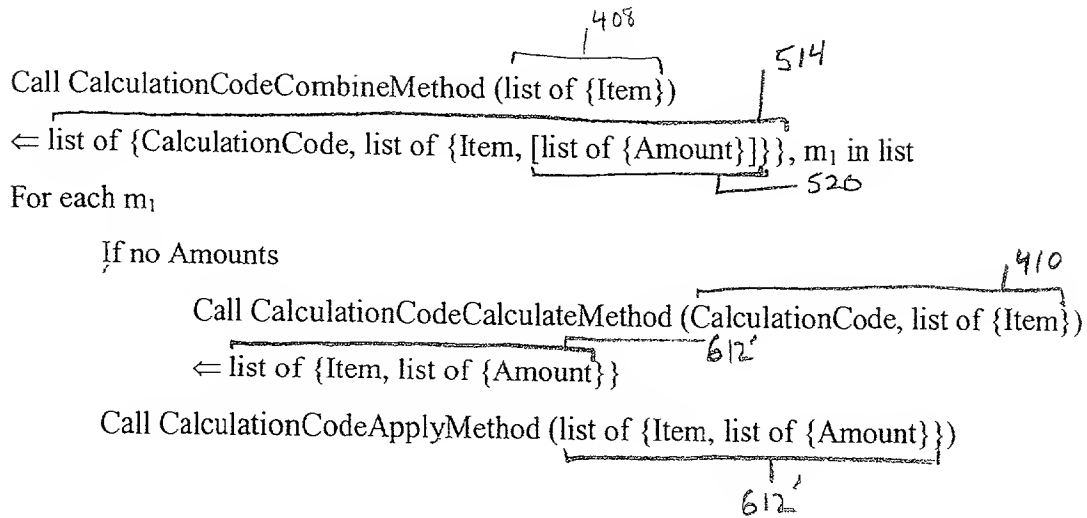


Figure 5

CalculationCodeCombineMethod (list of {Item}) – discounts, shipping

Associate CalculationCodes (list of {Item})

← list of {CalculationCode, list of {Item}}, m_1 in list 510

For each m_1

Call CalculationCodeQualifyMethod (CalculationCode, list of {Item})

← CalculationCode, list of {Item, [list of {Amount}]} 512

Sort (list of {CalculationCode, list of {Item, [list of {Amount}]}}) by sequence attribute 510'

Return (list of {CalculationCode, list of {Item, [list of {Amount}]}}) 520

514

Figure 6

CalculationCodeCalculateMethod (CalculationCode, list of {Item})

Call CalculationRuleCombineMethod (CalculationCode, list of {Item}) ⁴¹⁰

\Leftarrow list of {CalculationRule, list of {Item, [list of {Amount}]}}, n_x in list ⁵²⁰

For each n_x

 If no Amounts

 Call CalculationRuleCalculateMethod (CalculationRule, list of {Item})

\Leftarrow list of {Item, Amount} ⁶¹⁰

 Sum into list of {Item, list of {Amount}} ⁶¹²

Return (list of {Item, list of {Amount}}) ^{612'}

Figure 7

One order item 202 - Boots 700 – unit price 702 - \$100.00

Calculation Code 200 associated with boots 700

- discount 706

Calculation Rule 204 associated with discount 706

- discount A 708 - 10% off unit price

Figure 8

CalculationCodeCombineMethod(boots)
Associate CalculationCodes (boots)
Gives: discount, boots
CalculationCodeQualifyMethod (discount, boots)
Gives: discount, boots as qualified
Sort list of qualified calculation codes gives: 1. discount, boots
Return: 1. discount, boots

1. Discount, boots

No Amount, so

CalculationCodeCalculateMethod (discount, boots)
CalculationRuleCombineMethod (discount A, boots)
Gives: discount A, boots

No Amount, so

CalculationRuleCalculateMethod (discount A, boots)
Gives: boots, -\$10.00 discount

summed list: boots, -\$10.00 discount
Return: boots, -\$10.00 discount

CalculationCodeApplyMethod (boots, -\$10.00 discount)

Gives: Boots unit price \$100.00, discount A -\$10.00, adjusted unit price \$90.00

700 702 708 800 820

FIGURE 9

FINAL ORDER - BOOTS - 700

UNIT PRICE - 702	\$100.00
DISCOUNT A - 708	<u>-\$10.00</u>
ADJUSTED UNIT PRICE	\$ 90.00
802	
TOTAL -- 902	\$ 90.00

800

Figure 10

Items 202(x)

- Boots 1000 – unit price 702 – \$100.00
- Shoes 1002 x 2 – unit price 702 – \$40.00
- Socks 1004 – unit price 702 – \$2.00

Calculation Codes 200(x) associated with boots 1000

- shipping code 1 1010
 - sequence 304 = 5
- shipping code 2 1014
 - sequence 304 = 1
 - applicable if buying more than one pair

Calculation Codes 200(x) associated with shoes 1002

- shipping code 1 1010
 - sequence 304 = 5
- shipping code 2 1014
 - sequence 304 = 1
 - applicable if buying more than one pair

Calculation Codes 200(x) associated with socks 1004

- shipping code 1 1010
 - sequence 304 = 5
- shipping code 2 1014
 - sequence 304 = 1
 - applicable if buying more than one pair

Figure 10 continued – 2

Calculation Rules 204(x) associated with shipping code 1 1010

- shipping A 1020
 - add \$4.00 per unit
 - allowable combination 306 = in addition to
 - for shipping within the country
- shipping surcharge A 1022
 - add 5% surcharge on shipping charge if within a date range specified
 - allowable combination 306 = in combination with
 - for shipping within the country
- shipping surcharge B 1024
 - add 10% surcharge on shipping charge if there is not already a surcharge
 - allowable combination 306 = not in combination with
 - for shipping within the country
- shipping D 1026
 - add \$10.00 per unit
 - allowable combination 306 = in addition to
 - for shipping outside of the country

Calculation Rules 204(x) associated with shipping code 2 1014

- shipping X 1028 - \$2.00 added to total
 - allowable combination 306 = in addition to

Figure 11

CalculationCodeCombineMethod (boots, shoes x 2, socks)
Associate CalculationCodes (boots, shoes x 2, socks)
Gives: shipping code 1, {boots, shoes x 2, socks}; shipping code 2, {boots, shoes x 2, socks}
CalculationCodeQualifyMethod (shipping code 1, {boots, shoes x 2, socks})
Gives: shipping code 1, {boots, shoes x 2, socks} as qualified
CalculationCodeQualifyMethod (shipping code 2, {boots, shoes x 2, socks})
Gives: shipping code 2, {shoes x 2} as qualified
Sort list of qualified calculation codes gives: 1. shipping code 2, {shoes x 2}; 2. shipping code 1, {boots, shoes x 2, socks}
Return: 1. shipping code 2, {shoes x 2}; 2. shipping code 1, {boots, shoes x 2, socks}

1. Shipping code 2, {shoes x 2}
No Amount, so
CalculationCodeCalculateMethod (shipping code 2, {shoes x 2})
CalculationRuleCombineMethod (shipping code 2, {shoes x 2})
Gives: shipping X, {shoes x 2}
No Amount, so
CalculationRuleCalculateMethod (shipping X, {shoes x 2})
Gives: shipping X, {shoes x 2, \$2.00}
summed list: shipping X, {shoes x 2, \$2.00}
Return: shipping X, {shoes x 2, \$2.00}
CalculationCodeApplyMethod (shipping X, {shoes x 2, \$2.00})
Gives: {Boots unit price \$100.00}, {shoes x 2 unit price \$40.00, shipping X \$2.00}, {socks unit price \$2.00}

2. Shipping code 1, {boots, shoes x 2, socks}
No Amount, so
CalculationCodeCalculateMethod (shipping code 1, {boots, shoes x 2, socks})

CalculationRuleCombineMethod (shipping code 1, {boots, shoes x 2, socks})

Gives: shipping A, {boots, shoes x 2, socks}; shipping surcharge A, {boots, shoes x 2, socks}

No Amount, so

CalculationRuleCalculateMethod (shipping A, {boots, shoes x 2, socks})

Gives: {boots, \$4.00}, {shoes x 2, \$4.00}, {socks, \$4.00}, shipping A summed list: {boots, \$4.00}, {shoes x2, \$4.00}, {socks, \$4.00}, shipping A

CalculationRuleCalculateMethod (shipping surcharge A, {boots, shoes x 2, socks})

Gives: {boots, \$0.20}, {shoes x 2, \$0.20}, {socks, \$0.20}, shipping surcharge

summed list: {boots, \$4.00, \$0.20}, {shoes x 2, \$4.00, \$0.20}, {socks, \$4.00, \$0.20}

CalculationCodeApplyMethod ({boots, \$4.00, \$0.20}, {shoes x 2, \$4.00, \$0.20}, {socks, \$4.00, \$0.20})

Gives: {Boots unit price \$100.00, shipping A \$4.00, shipping surcharge A \$0.20}, {shoes x 2 unit price \$40.00, shipping X \$2.00, shipping A \$4.00, shipping surcharge A \$0.20}, {socks unit price \$2.00, shipping A \$4.00, shipping surcharge A \$0.20}

Figure 12

Final Order - boots 1000, shoes 1002 x 2, socks 1004

Boots 1000 Unit price	\$100.00	\$100.00
Shoes 1002 Unit price	\$40.00	\$80.00
Socks 1004 Unit price	\$2.00	\$2.00
Shoes 1002 Shipping X 1028	<u>\$2.00</u>	
Shipping Code 2	\$2.00	\$2.00
Boots 1000 Shipping A 1020	\$4.00	
Shoes 1002 Shipping A 1020	\$8.00	
Socks 1004 Shipping A 1020	<u>\$4.00</u>	
Shipping Code 1	\$16.00	\$16.00
Boots 1000 Shipping surcharge A 1022	\$0.20	
Shoes 1002 Shipping surcharge A 1022	\$0.40	
Socks 1004 Shipping surcharge A 1022	<u>\$0.20</u>	
Shipping surcharge	\$0.80	<u>\$0.80</u>
Total 1200		\$200.80

